Study spotlights risks in anesthesiologist handoffs

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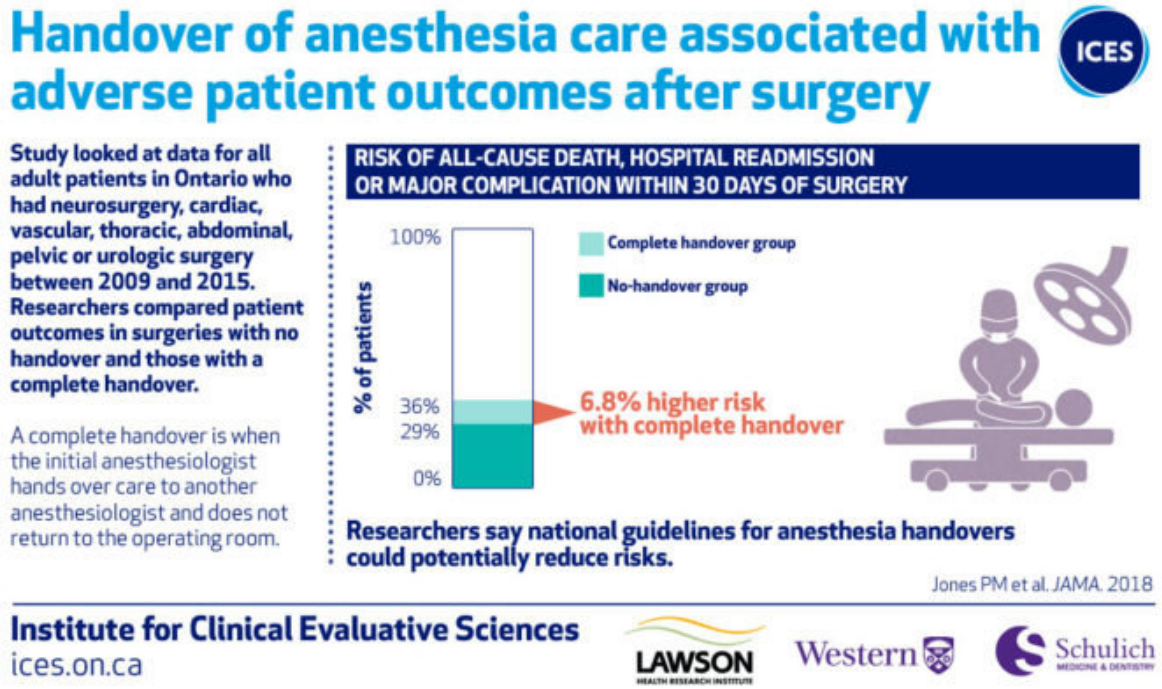

Most patients are totally unaware that the anesthesiologist who put them under for surgery might not be the same one who brings them out even though that 'handoff' between the two doctors has been linked to a series of negative patient outcomes, including an increased likelihood of death.

"Here's the crux. We have always assumed that if we did a proper handover, if we gave all the information necessary for the clinical care of the patient to the incoming anesthesiologist, that the effect on the patient would be 'care-neutral' – there may not be a benefit, but there probably won't be a detriment to the patient," Schulich School of Medicine & Dentistry Dr. Philip Jones explained.

"Unfortunately, what we found in a very large study, is evidence of harm. There is evidence of increased deaths related to this, evidence of increasing complications – and these are serious complications, not minor complications. The hospital stay is longer and other markers such as admission into intensive care units is increased when anesthesia handover care occurs. We feel this is a public health issue and people need to be aware."

An anesthesiologist might hand off a patient's care to a colleague for a variety of reasons, including illness or fatigue, to comply with working hour policies or to balance work hours and personal commitments. Handoffs occur in roughly 3 per cent of major surgeries and the practice appears to be on the rise each year.

Co-authored by Jones, a new study examined the postoperative outcomes of 313,066 adult patients undergoing major surgeries in Ontario, comparing outcomes in surgeries which did not experience a handover of anesthesia care with those where the primary anesthesiologist transferred care to a colleague and did not return to the operating room. All surgeries in the cohort were expected to last at least two hours and required a hospital stay of at least one night between April 2009 and March 2015.

An adverse outcome occurred in 29 per cent of the 'no-handover group' and in 36 per cent of the complete handover group. On average, for every 15 patients exposed to a complete anesthesia handover, one

additional patient would be expected to experience an adverse outcome. Hospital length of stay was increased by 1.2 days for patients whose care was handed off.

"Our assumption of care neutrality is incorrect and our study is congruent with four previous studies that have shown exactly the same thing – an increase in complications, increase in mortality," Jones said.

"As clinicians, we need to be careful and no longer assume these are not hurtful and we should limit the occasions on which we think it is reasonable to hand over care. That's from our side. But bodies such as the Canadian Anesthesiologists Society can issue guidelines as to when handovers are acceptable, given the consistent signal of harm."

Patients should also feel empowered to ask their anesthesiologist before going into surgery if a handoff will occur. Anesthesiologists should be willing to have this discussion with patients and arrange for alternatives if the patient does not feel comfortable with handoff, Jones stressed.

"In medical school, we learn about the ethics of medicine and one of the most important principles is patient autonomy. A patient cannot make an autonomous decision unless they have all of the relevant information," explained Jones, a professor in the departments of Anesthesia & Perioperative Medicine and Epidemiology & Biostatistics.

The risk with anesthesia handoff strikes a fine balance between the art and science of medicine, he continued.

The science – what the medical conditions of the patient are, what the doses of medication have been, how the surgery is going, how much blood loss has occurred – is a set of tangible facts one doctor can transmit to another. The art – the delicate and sometimes challenging task of intubating or re-intubating patients, with manual manipulation

required – is sometimes difficult to explain.

"It's one of the most important things we do as anesthesiologists. If that tube gets dislodged, then the patient could suffer from a lack of oxygen and die," Jones said. "If I hand over that patient's care and that breathing tube comes out prematurely, or the patient doesn't do well when it's removed – and I haven't passed on to the next anesthesiologist how I managed to wiggle my finger to the right, and that's how the tube went in best – if they don't know that, then they may not be able to re-secure the airway, if the airway is lost, and that can lead to complications."

The study, "Association Between Handover of Anesthesia Care and Adverse Postoperative Outcomes Among Patients Undergoing Major Surgery," was published in a recent issue of the *Journal of the American Medical Association*

More information: Philip M. Jones et al. Association Between Handover of Anesthesia Care and Adverse Postoperative Outcomes Among Patients Undergoing Major Surgery, *JAMA* (2018). DOI: 10.1001/jama.2017.20040

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